

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

1943
1943

SUGGESTIONS FOR SAFE OPERATION OF AUTOMOBILES

Attention to Driving

Accidents have causes. You may find in these suggestions what there is about yourself that might cause you to have an accident.

1. Do you allow others to distract your attention while driving, or do you keep your eyes and mind carefully on the road ahead?
2. Do you reach for packages, light a "smoke", or look up addresses while driving rapidly, or do you slow down to do these things?
3. Do you get interested in scenery, billboards, and people on the sidewalks, or have you trained yourself merely to glance at them?
4. Do you "day dream" on long runs, or do you avoid thinking of affairs that absorb you?
5. Are you careless of parked cars and what may be behind them, or are you alert for whatever may appear suddenly in the road ahead?
6. Do you fight off sleepiness when awake for long periods, or do you stop for a refreshing nap?
7. Do you drive always at a steady pace, or do you alter speed frequently to help keep you alert?
8. Do you like to "settle down", slouch in your driving seat, or are you always ready to meet unexpected emergencies?

Four Basic Driving Rules

Driving a motor car would be a much safer and pleasanter occupation if all drivers would follow a few simple precautions:

1. Observe the official speed limits of all streets and highways; consider these as MAXIMUM speeds.
2. Drive so that you can stop in plenty of time should emergency arise. Safe driving takes into consideration the slippery or otherwise dangerous condition of the roadway, the amount of traffic obstructions to view, your car, and YOURSELF.
3. Keep to the right--the "outer" lane--on any road, except when passing other cars.
4. Pass the car ahead only on its left-hand side after giving warning with your horn, and only when there is plenty of room without interference from other cars, both in front of you and in the rear. After passing, do not swing back until you are far enough ahead to see the slower car in your rear-view mirror.

Traffic Right-of-Way

The National Conference on street and highway safety has recommended certain right-of-way rules for vehicles; but if you live in a community where other rules are in common use, learn and follow them. Here are the conference recommendations:

1. All traffic should strictly obey the official signs and signals posted on the streets and highways, and also the speed limits officially established.
2. "STOP" means a full stop, not merely a slowing down.
3. At the "STOP-GO" light when the "GO" signal disappears in front of your car, your right-of-way ceases.
4. At the boulevard "STOP" sign, your car, having stopped, has right-of-way to proceed when a sufficient opening occurs in traffic to permit progress with safety.
5. At intersections uncontrolled by signal or sign, when two vehicles whose paths must cross approach the intersection simultaneously, the car coming up ON THE RIGHT of the other car has right-of-way.

But don't contest for the right-of-way. Too many drivers are either ignorant or careless of these safety rules. Take time to drive safely.

Traffic Lanes

Most States have a rule that vehicles shall keep to the right-hand side--the "outer lane"--of the highway except when passing other vehicles. This is excellent advice, because--

1. It leaves plenty of room for the unobstructed and safe passing of other vehicles.
2. It greatly increases the capacity of the highway.
3. Whether you drive slow or fast, you can proceed at your cruising pace with pleasure and safety.
4. Your hazard of head-on collision with vehicles in opposite traffic lanes is greatly reduced.
5. Vehicles in your rear, which may wish to pass you, are not forced to swing out dangerously into the path of on-coming traffic in order to pass on your left.
6. The "outer lane"--the extreme right-hand side--of the highway is occupied and there is no temptation for other vehicles in passing to crowd through a narrow space on your right.
7. The reckless driver who weaves in and out at a high speed has little opportunity.

8. By driving on the right-hand side of the highway the glare of on-coming headlights is greatly reduced.

Traffic Intersections

1. To drive safely, approach EVERY intersection expecting that you will have to stop quickly to avoid an accident.
2. Slow down BEFORE you reach the intersection, go into it slowly. Then, if all is clear, accelerate and clear the intersection quickly.
3. Observe the right-of-way. But if another driver insists upon the right of way, don't dispute it. Slow down and let him pass in safety.
4. Never pass another vehicle near or at an intersection. Your view of possible hazards almost certainly will be partly obscured by the other vehicle.
5. Watch carefully for vehicles turning the corner at your left as you approach the intersection. They may block your view of other approaching traffic.
6. Don't rely on stop signs. There are still many reckless drivers who disregard them.
7. Be considerate of the pedestrian. Always slow down and let him proceed in safety.

Traffic Hand Signals

The National Conference on Street and Highway safety has recommended that, if hand signals are employed, the following signals should be given continuously from the left side of the vehicle:

1. "For LEFT TURN, hand and arm extended horizontally."

The common practice is to turn from the inner traffic lane, next to the center line of the roadway. Prepare for the turn by signalling your intention to all cars behind and drive at a safe angle carefully across to the inner lane. If traffic is approaching on the left-hand side of the road, wait until it has gone by; then turn around the center point of the intersection.

2. "For RIGHT TURN, hand and arm extended upward, or moved in a sweeping motion from rear to front."

Approach the turn close to the right-hand side of the road, slow down gradually, and turn carefully. Do not swing first to the left and then make the turn to the right; this is dangerous and confusing to other drivers.

Traffic Hand Signals (continued)

3. "For STOP, hand and arm extended downward."

However, if other hand signals are in common use in your community, learn your local signals and follow them.

Bad Weather Driving

1. Drive slowly on slippery roadways; when stopping or turning, use brakes with caution.
2. Approach curves, hills, bridges, railroad tracks, danger and caution signs with reduced speed and extra care..
3. Before descending steep or slippery grades, shift into second or low speed.
4. Make sure the windshield wiper operates effectively.
5. Sleet on the windshield may be avoided by wiping the glass with glycerine and by raising or blocking up the rear end of the hood to let the engine help melt the ice.
6. In heavy mist or fog use the headlights with depressed beam; the upper beam or a spotlight will glare back at you.
7. In night driving wipe the mud or snow from head lamps frequently; also clean the entire windshield often.
8. Keep out of ruts in mud, snow and frozen ground. Beware of soft shoulders. If off the pavement, slow down and turn back with great care to avoid a skid or lurch into another traffic lane.
9. Spinning the rear wheels only digs deeper into mud or snow. Rock the car forward and back a few inches repeatedly until you can pull or back out.

Skidding Can Be Avoided

Most drivers lay the fault for skidding on ice or snow, or wet or oily roads, or on loose gravel.. But these are only alibis. Try these suggestions:

1. On any slippery roadway, travel at moderate speed and with extra caution.
2. Reduce speed slowly; always slow down BEFORE you wish to stop or turn.
3. Keep brakes adjusted and equalized. Never slam them on suddenly under bad road conditions.
4. Tires grip the road better if inflated moderately; hard tires skid more easily.

5. Chains may help to stop a skid, if you drive with caution; but chains cannot prevent skidding if you drive recklessly.
6. Avoid wet or icy car rails; cross at wide angle.
7. Keep out of ruts in mud, or ice, or snow.
8. If you do skid, do not instantly slam on the brakes in a panic. Release the throttle, but leave the clutch engaged so that the engine will help to slow your car. Touch the brakes lightly, alternately exerting a little pressure and releasing them; and turn the steering wheel in the direction of the skid.

Loose Gravel Hazards

On a loose gravel road an automobile often sways and skids dangerously if going at high speed.

Be alert for equally dangerous loose gravel on the paved highway.

Many an accident on a curve has been caused by a spot of gravel on a hard surfaced road. The driver of a fast car has felt one of his front wheels strike the pebbles--they acted just like roller bearings under it--and instantly the car was out of control and in the ditch.

Gravel alongside the pavement can usually be avoided, but if a wheel gets off the concrete and into loose gravel at high speed, nothing but cool-headed steering can prevent a disaster.

Do not attempt to turn back on the pavement at once; a bad skid against the pavement edge might result.

Use your brakes with caution only after you are certain you have the car under control.

The road which is all loose gravel is usually dangerous only if driving at high speed. Cut your speed down to a common sense pace where wheels do not slide.

When Tires Blow Out

Most persons, rightly, fear a blow-out when traveling at high speed; particularly a blow-out in a front-wheel tire.

That is why most drivers, if buying only one pair of new tires, always put them on the front wheels.

Great care and skillful driving are necessary when a blow-out occurs.

You should, of course, have a firm grip on the wheel at all times when driving, and be alert and ready for emergencies.

If a blow-out occurs (on any wheel) what should you do?

When Tires Blow Out (continued)

1. Steer! Don't think of anything but steering!
2. When you are sure you have the car under control, and then only, use your brakes--but use them with caution.
3. If the car jerks about when brakes are applied, or sways badly, release the brakes at once; let the car roll farther, then apply the brakes again lightly.

Good tires are good insurance against blow-outs. If tires are old or weak, don't drive at excessive speeds; and get new tires.

Proper Tire Inflation

Properly inflated tires not only run the greatest number of miles, but help in avoiding accidents.

Tires that are unequally inflated result in poor steering, in poor braking efficiency, and in excess sidesway on curves. Any one or all of these factors make the vehicle unsafe for both motorists and pedestrians.

While under certain conditions of slippery roadway, soft tires may increase braking efficiency, steering control is nevertheless reduced, and danger of accident correspondingly increased.

Proper inflation varies with the make of tire, but each manufacturer issues careful instructions.

1. Know the manufacturer's recommendations regarding your tires and keep them up to standard.
2. Check tires frequently--every day is not too often.
3. "Guessing" whether the air is right or not by kicking each tire is a silly practice.
4. Examine your tires carefully for rim cuts and other injuries, and take proper steps for repair.
5. If tires have been badly abused, or show excessive wear, or have served long mileage, safety may require immediate replacement.

Carbon Monoxide

Carbon monoxide is a deadly gas, killing quickly and without warning if in large quantity. Even in minute concentration, it may induce drowsiness and a fatal inattention on the crowded highway.

Fresh air is the one sure safeguard against it.

1. Before starting your automobile engine, open the garage doors wide.
2. Never crawl under your car while the engine is running.

Carbon Monoxide (continued)

3. Keep the engine in good condition, with combustion as complete as possible, by frequent inspection, adjustment, and repair.
4. Make sure that all parts of the manifold, exhaust pipe and the muffler do not leak.
5. Be doubly careful to prevent gas leaks through a manifold car heater.
6. Never drive with all the windows of your car closed.
7. Sleepiness while driving may indicate the presence of carbon monoxide. Stop at once, get out and walk about in the open air; then drive with windows open.
8. Avoid following other automobiles too closely; their exhaust contains carbon monoxide which may easily drift into your car.

Backing

1. Backing a vehicle is an unusual movement; the driver must, therefore, take entire responsibility for doing it.
2. Whenever possible, avoid backing by driving around the block instead of turning around in the street, by parking parallel instead of end in, and by stopping exactly where you planned rather than running by and backing up.
3. If backing must be done, be personally sure that all is clear behind at the time; never assume that no one has driven up or stepped off the curb back of you since you last looked.
4. If you have a helper or passenger, have him stand off to one side of the vehicle while it is being backed to warn others, but do not depend on him to keep the way clear.
5. Give signals for backing. Four short blasts of the horn are commonly used. Leaning out of the window and looking back will also warn the driver behind.
6. When forced to stop in traffic, for example, when a signal changes while you are on a crosswalk, it is better to remain standing than to back up. Someone may have walked back of you.
7. When backing around corners or in garages, alleys, etc., be sure that the front end of the vehicle does not swing to one side and hit something while you are looking back.

Parking

Parking your vehicle correctly will help prevent accidents, and inconveniences, both to yourself and others. It will also help you keep your temper and thus improve your driving.

Parking (continued)

Here is the way to park--

1. Always signal before stopping, and before pulling out into the stream of traffic.
2. Backing out, from angle parking, is most dangerous. Get someone to stand guard, sound your horn three or four times, watch out yourself and go slowly.
3. Park on the right of the street, except when directed otherwise.
4. Park so that the right wheel of your car is not more than one foot from the curb.
5. Make sure there is plenty of clearance for other vehicles when you park. In alleys there must be a ten foot lane left.
6. Do not double park at any time, even if it is "just a minute".
7. If your vehicle is longer than the average, park parallel to the curb--not at an angle where it will extend into the traffic.
8. Park at least 15 feet from a fire hydrant, and thirty feet from an intersection.
9. Do not stop or park on a crosswalk, in front of a private driveway, or opposite a safety zone; park at least 30 feet from the points on the curb opposite the end of the safety zone.
10. When parking on a hill, set the hand brake, and put the car in low gear. Then cramp the wheels so that if the car starts to roll, the curb will stop it. Use blocks for heavy vehicles.
11. When parking in a business district, leave the car so that it can be moved in an emergency.
12. On country highways, if possible, park off the main pavement, if not, set up flares at night to warn approaching vehicles.

Delayed Braking

You are driving your motor car and observe a group of children playing alongside the curb ahead. Knowing the ways of children, you slow down cautiously as you approach.

When almost opposite the children, suddenly one of them dashes out in front of you! But you are ready--you are going slowly--you save that little life!

But suppose you had NOT slowed cautiously as you approached the children. Suppose that in spite of frantic efforts you could not stop in time!

That would have been DELAYED BRAKING.

Delayed Braking (continued)

A driver, unwilling to slow down, waits until the critical moment—waits too long—and sometimes a life is sacrificed.

There are many examples of delayed braking.

We do not slow at the intersection, something obscures another car, there is a crash. On the highway we do not slow for the side road ahead, a farm vehicle appears--too late for us to stop. Although the road ahead is congested, we think traffic will open up in time, we do not slow down, there is another accident.

Delayed braking is just another name for reckless driving.

Your Reaction Time

You are driving your automobile. Suddenly an emergency occurs. You see it instantly, but while you realize the danger and move your foot to apply the brakes, time has gone by.

That interval is called your "reaction time."

The most alert person, scientific tests show, needs not less than half a second to get the brakes to working. Many drivers require one, or one and one-half seconds. The average is $\frac{3}{4}$ second. Since at even 30 miles an hour your car travels 44 feet in one second, if you are an average man your car will travel 33 feet BEFORE your brakes can be applied.

Even the best brakes take time to stop a car. The scientific tests show that at 30 miles an hour on a dry road 4-wheel brakes in good condition usually require 47 feet.

Add this 47 feet to your reaction time of 33 feet, and you have 80 feet as the distance in which your car CAN BE STOPPED if going 30 miles an hour.

At 40 miles an hour, the distance is 128 feet; at 50 miles it is 186 feet; and at 60 miles it is 251 feet.

Think about these distances when you are driving on the streets and highway and don't take chances.

Cranking Gas Engines

These instructions relate only to cars equipped with hand cranks.

1. Make sure gear shift is in neutral and hand brake set.
2. Retard the spark.
3. Open throttle (advance throttle lever) a little.
4. Stand clear of swing of the crank in case the engine back fires; (a broken arm, even a cracked shin, might result).

5. Make sure, in swinging the crank, that your fingers will not strike some object near by.
6. Get a firm footing, bracing yourself with free hand, if possible.
7. Grasp crank in palm of hand, with thumb back of (not over) crank handle.
8. Turn engine over once or twice to prime motor before turning on switch.
9. Bend knees and pull up, with your leg muscles taking most of the strain--speed to a quick jerk at top.

At Railroad Crossings

About 1,500 persons die as a result of railroad-highway grade crossing accidents each year. Here are some common-sense suggestions to motorists:

1. Be alert for all railroad-highway signs and signals and obey their warnings; never try to beat a train to the crossing.
2. Do not approach railroad crossings at high speed; be able to stop within your car's length.
3. Do not pass other vehicles on or near a railroad crossing.
4. If you cannot see far up and down the tracks in both directions, shift into second speed before starting across.
5. It is also a good plan, when approaching crossings of two or more tracks, to shift into second speed before starting over.
6. When railroad cars or engines are standing at or near the crossing, stop, look and listen for approaching trains; then cross with utmost caution.
7. In foggy or stormy weather, and at night, reduce your speed and increase your caution at all railroad crossings. Be especially alert for any obstruction which may prove to be the side of a railroad train partially obscured by fog, rain or the night shadows.

Driving at Night

Do you drive much at night? On long trips, after driving many hours by day, do you often say: "It's early; we can make another 100 miles by midnight?"

Actually, at such a time, you decide that, although tired you will drive on under conditions where the hazard of fatality on the highway is doubled or trebled.

At Railroad Crossings (continued)

Nearly two-thirds of all fatal traffic accidents occur between 6 P.M. and 6 A.M.; yet traffic for those hours is only one-third of the 24-hour total.

A large percentage of these fatalities occur in the single hour between midnight to 1 A.M.

Why do many drivers relax their caution on midnight roads?

For one thing, they are often tired and sleepy. Some of them drive much faster because the stream of traffic has grown thinner. Many drivers are influenced by drink-inflamed minds. Others, sober enough, are almost blind at night.

You may be entirely efficient and careful; but you and your passenger's will be far safer if you will do as little driving after nightfall as possible.

What is Blind Driving?

You are driving rapidly at night. Assume that suddenly your headlights show an obstruction on the road. You make every effort to stop, but cannot--your car hits the obstruction.

You may not have realized it, but you were driving more or less blind. Engineers call it "over driving your headlights".

For example: An average man requires 3/4 second to realize danger and actually get his brakes to working; then, good brakes require time to stop a car. At 40 miles an hour, the average whole stopping distance is 128 feet; at 50 miles, 186 feet; at 60 miles it is 251 feet.

But other factors also enter--road surface conditions; visibility through rain, fog, snow; eyesight and health of the driver, fatigue, sleepiness; and finally, length and accuracy of the light beam, clean lenses, etc.

In short, you might as well be blind as to drive at night at a pace faster than will permit you to stop in less than the distance you can see and understand what lies ahead.

Glare on the Highway

One reason why the night highway fatality rate is six times higher than the day rate is headlight glare.

Most drivers put too much trust in their own headlights. The finest headlights deprecate rapidly--often lose 60 per cent of their effectiveness--if they are not kept clean and in perfect focus.

Drivers also forget how the human eye is handicapped. In darkness the eye pupil expands to admit all light possible. When a brilliant headlight beam strikes that wide open pupil, it is painfully dazzled and contracts swiftly.

The pupil contracts, however, about 60 times faster than it can expand. When glaring headlights have passed, a curtain of blackness hangs on that leaves one almost blind.

During that blind interval, if you are driving 40 miles an hour, your car will travel about 200 feet.

In the face of glare many drivers watch the right-hand margin of the roadway, but even this limits their range of vision. Two other precautions should be taken:

1. Be sure you have lowered—or dimmed—your own headlights; the other driver probably will do the same.
2. Whether or not he lowers his headlights, reduce your speed until the effects of glare have passed.

Motor Vehicle Inspection (By the Driver)

1. Test brakes daily, soon after driving out. If not adjusted perfectly or if defective in any way, secure repairs at once.
2. Keep tires in good repair and inflated as specified by manufacturer.
3. Note the front-wheel alignment and steering of your car frequently. Have an expert mechanic inspect both if you think anything may be wrong.
4. Make sure daily that headlamps, tail lamps and "Stop" light can be lighted; have the headlight beams checked at intervals to insure proper focus. Never drive a "one-eyed" car.
5. Be sure the windshield wiper works properly, and that rear-view mirror and rear window are clean.
6. Test horn daily for proper operation.
7. Carbon monoxide gas is both a summer and winter hazard. Make sure it cannot escape from leaky manifold gaskets, breaks in the exhaust pipe or muffler, or get into your car through a defective manifold heater.

Courtesy in Driving

Many driving rules that contribute both to your safety and to other users of the highway are based chiefly on common sense and courtesy.

For example:

1. Take your turn in traffic. Don't run up in the wrong lane and crowd other vehicles aside; this is the mark of the "road hog."

Courtesy in Driving (continued)

2. Drive in one traffic lane, unless passing other cars. If you straddle two lanes, you are both a nuisance and a hazard to others.
3. When another driver signals that he wishes to pass, let him go by unhindered.
4. Pass vehicles ahead only when there is ample room to get back into your lane without crowding others.
5. Observe the "right-of-way" rule. Even if you think you have the right-of-way, don't insist on having it if another driver tries to get it.
6. Don't cheat at the traffic signal light, let other vehicles and pedestrians clear the crossing before you drive ahead. No fraction of time is worth an accident.
7. Be courteous when parking. Don't block pedestrian walks, or private driveways, or building entrances, or stop too close to safety zones.

The above suggestions cover the fundamental rules
of safe driving practices

Study Them -- Practice Them

BE A SAFE DRIVER

Do Your Part to Prevent Accidents

